

LEVEL 1 - 1 PATENT

1. 5,656,186, Aug. 12, 1997, Method for controlling configuration of laser, induced breakdown and ablation, Mourou, Gerard A., Ann Arbor, Michigan Du, Detao, Ann Arbor, Michigan Dutta, Subrata K., Ann Arbor, Michigan Elner, Victor, Ann Arbor, Michigan Kurtz, Ron, Ann Arbor, Michigan Lichter, Paul R., Ann Arbor, Michigan Liu, Xinbing, Ann Arbor, Michigan Pronko, Peter P., Dexter, Michigan Squier, Jeffrey A., Ann Arbor, Michigan, The Regents of the University of Michigan, Ann Arbor, Michigan (02)

CORE TERMS: pulse, laser, width, breakdown, threshold, beam, fluence, spot, energy, ablation...

<=2> GET 1st DRAWING SHEET OF 10

Aug. 12, 1997

Method for controlling configuration of laser induced
breakdown and ablation

REISSUE: This Patent was reissued on Mar. 19, 2002 as Reissue Patent Re 37,585.

Reissue Application filed Feb. 1, 2001 (O.G. Oct. 16, 2001) Ex. Gp.: 1742;
Re. S.N. 09/775,106

Reissue Application filed Feb. 1, 2000 (O.G. Jul. 31, 2001) Ex. Gp.: 1742;
Re. S.N. 09/775,069

CORE TERMS: pulse, laser, width, breakdown, threshold, beam, fluence, spot,
energy, ablation...

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Current session 18/06/2002

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Last database update: 2002/06/12 (YYYY/MM/DD) 2002-23/UP (basic update)

Search statement 1

Query/Command : us5656186/pn**** SS 1: Results 1**

Search statement 2

Query/Command : prt full nonstop legalall

1 / 1 PLUSPAT - ©QUESTEL-ORBIT - image

PN - US5656186 A 19970812 [US5656186]
 TI - (A) Method for controlling configuration of laser induced breakdown and ablation
 PA - (A) UNIV MICHIGAN (US)
 IN - (A) KURTZ RON (US); LIU XINBING (US); DU DETAO (US); DUTTA SUBRATA K (US); ELNER VICTOR (US); LICHTER PAUL R (US); MOUROU GERARD A (US); PRONKO PETER P (US); SQUIER JEFFREY A (US)
 AP - US22496194 19940408 [1994US-0224961]
 PR - US22496194 19940408 [1994US-0224961]

IC - (A) B23K-026/02

EC - A61B-018/20
B23K-026/06F
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PCL - ORIGINAL (O) : 219121690

DT - Corresponding document

CT - US4087672; US4114018; US4464761; US4579430; US4630274; US4665913;
US4675500; US4727381; US4729372; US4732473; US4733660; US4764930;
US4838679; US4839493; US4848340; US4881808; US4901718; US4907586;
US4925523; US4930505; US4942586; US4988348; US5062702; US5093548;
US5098426; US5141506; US5207668; US5208437; US5219343; US5235606;
US5246435; US5269778; US5289407; US5312396; US5335258; US5348018;
US5389786; US5454902; US5558789; DE4119024 A1; WO8908529
C.V. Shank, R. Yen, and C. Hirlimann, "Time-Resolved Reflectivity Measures of Femtosecond-Optical-Pulse-Induced Phase Transitions in Silicon", Physical Review Letters, vol. 50, No. 6, 454-457, Feb. 7, 1983.

C.V. Shank, R. Yen, and C. Hirlimann, "Femtosecond-Time-Resolved Surface Structural Dynamics of Optically Excited Silicon", Physical Review Letters, vol. 51, No. 10, 900-902, Sep. 5, 1983.

C.V. Shank and M.C. Downer, "Femtosecond Dynamics of Highly Excited Semiconductors", Mat. Res. Soc. Symp. Proc., vol. 51, 15-23, 1985.

S. Kuper and M. Stuke, "Femtosecond uv Excimer-Laser Ablation", Applied Physics B, vol. 44, 199-204, 1987.

S. Preuss, M. Spath, Y. Zhang, and M. Stuke, "Time Resolved Dynamics of Subpicosecond Laser Ablation", Applied Physics Letters, vol. 62, No. 23, 3049-3051, Jun. 7, 1993.

A.M. Malvezzi, N. Bloembergen, and C.Y. Huang, "Time-Resolved Picosecond Optical Measurements of Laser-Excited Graphite", Physical Review Letters, vol. 57, No. 1, 146-149, Jul. 7, 1986.

D.H. Reitze, X. Wang, H. Ahn, and M.C. Downer, "Femtosecond Laser Melting of Graphite", Physical Review B, vol. 40, No. 17, Dec. 15, 1989.

F. Muller, K. Mann, P. Simon, J.S. Bernstein, and G.J. Zaal, "A Comparative Study of Decomposition of Thin Films by Laser Induced PVD with Femtosecond and Nanosecond Laser Pulses", SPIE, vol. 1858, 464-475, 1993.

International Search Report Form PCT/ISA/210 Dated 31 Jul. 1995 and Mailed 4 Aug. 1995.

M.W. Berns et al., "Laser Microsurgery in Cell and Developmental Biology", Science, vol. 213, No. 31, 505-513, Jul. 1981.

G.L. LeCarpentier et al., "Continuous Wave Laser Ablation of Tissue: Analysis of Thermal and Mechanical Events", IEEE Transactions on Biomedical Engineering, vol. 40, No. 2, 188-200, Feb. 1993.

C. LeBlanc, "Realization and Characterization of a High Intensity Femtosecond Laser

System Based on all Titanium Doped Sapphire", Annales de Physique, vol. 19, No. 1, Abstract, Feb. 1994.

R. Birngruber, C. Puliafito, A. Gawande, W. Lin, R. Schoenlein, and J. Fujimoto, "Femtosecond Laser-Tissue Interactions: Retinal Injury Studies", IEEE Journal of Quantum Electronics, vol. QE-23, No. 10, 1836-1844, Oct. 1987.

B. Zysset, J. Fujimoto, and T. Deutsch, "Time-Resolved Measurements of Picosecond Optical Breakdown", Applied Physics B 48, 139-147 (1989).

B. Zysset, J. Fujimoto, C. Puliafito, R. Birngruber, and T. Deutsch, "Picosecond Optical Breakdown: Tissue Effects and Reduction of Collateral Damage", Lasers in Surgery and Medicine 9:192-204 (1989).

S. Watanabe, R. Anderson, S. Brorson, G. Dalickas, J. Fujimoto, and T. Flotte, "Comparative Studies of Femtosecond to Microsecond Laser Pulses on Selective Pigmented Cell Injury in Skin", Photochemistry and Photobiology vol. 53, No. 6, 757-762 (1991).

N. Bloembergen, "Laser-Induced Electric Breakdown in Solids", IEEE Journal of Quantum Electronics, vol. QE-10, No. 3, (Mar. 1974).

R. Birngruber, C. Puliafito, A. Gawande, W. Lin, R. Schoenlein, and J. Fujimoto, "Femtosecond Laser-Tissue Interactions: Retinal Injury Studies", IEEE Log No. 8716039, (1987).

D. Stern, R. Schoenlein, C. Puliafito, E. Dobi, R. Birngruber, and J. Fujimoto, "Corneal Ablation by Nanosecond, Picosecond, and Femtosecond Lasers at 532 and 625 nm", Arch Ophthalmol, vol. 107, (Apr. 1989).

J. Squier, F. Salin, and G. Mourou, "100-fs Pulse Generation and Amplification in Ti:Al.sub.2 O.sub.3 ", Optics letters, vol. 16, No. 5, (Mar. 1991).

B. Frueh, J. Bille, and S. Brown, "Intrastromal Relaxing Excisions in Rabbits with a Picosecond Infrared Laser", Lasers and Light in Ophthalmology, vol. 4, No. 3/4, (1992), 165-168.

R. Remmel, C. Dardenne, and J. Bille, "Intrastromal Tissue Removal Using an Infrared Picosecond Nd:YLF Ophthalmic Laser Operating at 1053 nm", Lasers and Light in Ophthalmology, vol. 4, No. 3/4, 169-173, (1992).

J. Squier and G. Mourou, "Tunable Solid-State Lasers Create Ultrashort Pulses", Laser Focus World, (Jun. 1992).

M.H. Niemz, T.P. Hoppeler, T. Juhasz, and J. Bille, "Intrastromal Ablations for Refractive Corneal Surgery Using Picosecond Infrared Laser Pulses", Lasers and Light in Ophthalmology, vol. 5, No. 3, pp. 149-155 (1993).

H. Cooper, J. Schuman, C. Puliafito, D. McCarthy, W. Woods, N. Friedman, N. Wang, and C. Lin, "Picosecond Neodymium: Yttrium Lithium Fluoride Laser Sclerectomy", Am. Journal of Oph. 115:221-224, (Feb. 1993).

K. Frederickson, W. White, R. Wheeland, and D. Slaughter, "Precise Ablation of Skin with Reduced Collateral Damage Using the Femtosecond-Pulsed, Terawatt Titanium-Sapphire Laser", Arch Dermatol, vol. 129, (Aug. 1993).

H. Kapteyn and M. Murnane, "Femtosecond Lasers: The Next Generation", Optics &

Photonics News, (Mar. 1994).

G. Mourou, A. Zewail, P. Barbara, and W. Knox, "New Generation of Ultrafast Sources Marked by Higher Powers, Versality", Optics & Photonics News, (Mar. 1994).

D. Du, X. Liu, G. Korn, J. Squier, and G. Mourou, "Laser-Induced Breakdown by Impact Ionization in SiO₂ with Pulse Widths from 7 ns to 150 fs", Appl. Phys. Lett 64 (23), (Jun. 6, 1994).

STG - (A) United States patent

AB - In one aspect the invention provides a method for laser induced breakdown of a material with a pulsed laser beam where the material is characterized by a relationship of fluence breakdown threshold (F_{th}) versus laser beam pulse width (T) that exhibits an abrupt, rapid, and distinct change or at least a clearly detectable and distinct change in slope at a predetermined laser pulse width value. The method comprises generating a beam of laser pulses in which each pulse has a pulse width equal to or less than the predetermined laser pulse width value. The beam is focused to a point at or beneath the surface of a material where laser induced breakdown is desired. The beam may be used in combination with a mask in the beam path. The beam or mask may be moved in the x, y, and Z directions to produce desired features. The technique can produce features smaller than the spot size and Rayleigh range due to enhanced damage threshold accuracy in the short pulse regime.

1/1 LGST - ©LEGSTAT

PN - US 5656186 [US5656186]

AP - US 224961/94 19940408 [1994US-0224961]

DT - US-P

ACT - 19940408 US/AE-A
APPLICATION DATA (PATENT)
US 224961/94 19940408 [1994US-0224961]

19940902 US/AS02

ASSIGNMENT OF ASSIGNOR'S INTEREST

REGENTS OF THE UNIVERSITY OF MICHIGAN, THE WOLVERINE TOWER,
ROOM 2071 3003 S. ST * MOUROU, GERARD A. : 19940407; DU, DETAO :
19940407; DUTTA, SUBRATA K. : 19940407; ELNER, VICTOR : 19940407; KURTZ,
RON : 19940407;

19970812 US/A
PATENT

19990928 US/RF
REISSUE APPLICATION FILED
19990804

20010731 US/RF
REISSUE APPLICATION FILED
20000201

20011016 US/RF
REISSUE APPLICATION FILED
20010201

UP - 2001-44

1 / 1 CRXX - ©CLAIMS/RRX

PN - 5,656,186 A 19970812 [US5656186]
PA - Michigan, University of
ACT - 19990804 REISSUE REQUESTED
ISSUE DATE OF O.G.: 19990928
REISSUE REQUEST NUMBER: 09/366685
EXAMINATION GROUP RESPONSIBLE FOR REISSUEPROCESS: 1742
Reissue Patent Number: USRE37585

20000201 REISSUE REQUESTED
ISSUE DATE OF O.G.: 20010731
REISSUE REQUEST NUMBER: 09/775069
EXAMINATION GROUP RESPONSIBLE FOR REISSUEPROCESS: 1742

Reissue Patent Number:

20010201 REISSUE REQUESTED
ISSUE DATE OF O.G.: 20011016
REISSUE REQUEST NUMBER: 09/775106
EXAMINATION GROUP RESPONSIBLE FOR REISSUEPROCESS: 1742

Reissue Patent Number:

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AN - 200142-001612
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OG - 2001-10-16
ACT - REISSUE APPLICATION FILED

2 / 14 PAST - ©Thomson Derwent

AN - 200131-001297
PN - 5656186 A [US5656186]
OG - 2001-07-31
ACT - REISSUE APPLICATION FILED

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AN - 199951-002770
PN - 5656186 A [US5656186]
ACT - PATENT SUIT

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AN - 199950-002719
PN - 5656186 A [US5656186]
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AN - 199949-002630
PN - 5656186 A [US5656186]
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AN - 199948-002873
PN - 5656186 A [US5656186]
ACT - PATENT SUIT

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AN - 199947-002840
PN - 5656186 A [US5656186]
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AN - 199946-002899
PN - 5656186 A [US5656186]
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AN - 199945-002802
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AN - 199944-002326
PN - 5656186 A [US5656186]
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AN - 199943-002793
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AN - 199941-002696
PN - 5656186 A [US5656186]
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AN - 199939-000730
PN - 5656186 A [US5656186]
OG - 1999-09-28
ACT - REISSUE APPLICATION FILED

14 / 14 PAST - ©Thomson Derwent

AN - 199937-001481
PN - 5656186 A [US5656186]
ACT - PATENT SUIT

1 / 1 LITA - ©Thomson Derwent

AN - P1999-37-42
FS - PATENT (P)
PN - US5656186 19970812 (Utility)
PF - Positive Lights Incorporated
DF - Clark MXR Incorporated
CT - CA, Northern Dist.
DN - C-99-3937 JL
FD - 1999-08-23
ACT - A complaint was filed.

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1 Patent Groups

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ZERSTOEREN UND ABTRAGEN
IN - MOUROU GERARD A [US]; DU DETAO [US]; DUTTA SUBRATA K [US]; ELNER
VICTOR [US]; KURTZ RON [US]; LICHTER PAUL [US]; LIU XINBING [US];
PRONKO PETER P [US]; SQUIER JEFFREY A [US]
PA - UNIV MICHIGAN [US]
AP - AT 95916130/95-EP 19950329 [1995EP-0916130]
PR - US 224961/94-A 19940408 [1994US-0224961]
IC - B23K-026/00; A61B-017/22

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19980415 AT/UEP [+]
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REQUEST FOR EXAMINATION FILED
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19970514 EP/17Q [+]
FIRST EXAMINATION REPORT
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19971105 EP/AK-B1 [+]
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SPECIFICATION:
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BREAKDOWN AND ABLATION
IN - MOUROU GERARD A; DU DETAO; DUTTA SUBRATA K; ELNER VICTOR;
KURTZ RON; LICHTER PAUL; LIU XINBING; PRONKO PETER P; SQUIER
JEFFREY A
PA - UNIV MICHIGAN
AP - AU 22741/95-A 19950329 [1995AU-0022741]
PR - US 224961/94-A 19940408 [1994US-0224961]
WO 9503863/95(US)-W 19950329 [1995WO-US03863]
IC - B23K-026/00; A61B-017/22

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BREAKDOWN AND ABLATION
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JEFFREY A
PA - UNIV MICHIGAN
AP - AU 22741/95-A 19950329 [1995AU-0022741]
PR - US 224961/94-A 19940408 [1994US-0224961]
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IC - B23K-026/00; A61B-017/22

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PRONKO PETER P [US]; SQUIER JEFFREY A [US]
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AP - CA 2186451/95-A 19950329 [1995CA-2186451]
PR - US 224961/94-A 19940408 [1994US-0224961]
IC - B23K-026/00; A61B-017/22; A61B-017/36

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PN - CA 2186451 [CA2186451]
DT - CA-P
ACTE - 19960925 CA/REFW-P
CORRESPONDS TO PCT APPLICATION
<WO 9527587> [WO9527587]
UP - 1998-31

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PN - DE 69500997 C0 19971211 [DE69500997]
TI - VERFAHREN ZUM KONFIGURATIONSTEUERN VON LASERINDUZIERTEM
ZERSTOEREN UND ABTRAGEN
IN - MOUROU GERARD [US]; DU DETAO [US]; DUTTA SUBRATA [US]; ELNER
VICTOR [US]; KURTZ RON [US]; LICHTER PAUL [US]; LIU XINBING [US];
PRONKO PETER [US]; SQUIER JEFFREY [US]
PA - UNIV MICHIGAN [US]
AP - DE 69500997/95-A 19950329 [1995DE-6000997]
PR - US 224961/94-A 19940408 [1994US-0224961]
WO 9503863/95(US)-W 19950329 [1995WO-US03863]
IC - B23K-026/00; A61B-017/22

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PN - DE 69500997 [DE69500997]
DT - DE-P
ACTE - 19971211 DE/REF-P
CORRESPONDS TO
(EP 754103 19971211 [EP-754103])

19980430 DE/8373
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19981203 DE/8364 [+]
NO OPPOSITION DURING TERM OF OPPOSITION
UP - 1998-51

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PN - EP 754103 [EP-754103]
AP - EP 95916130/95 19950329 [1995EP-0916130]
DT - EP-P
ACTE - 19950329 EP/AE-A
EP-APPLICATION
EP 95916130/95 19950329 [1995EP-0916130]

19970122 EP/AK-A1 [+]
DESIGNATED CONTRACTING STATES IN AN APPLICATION WITH SEARCH
REPORT:
AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE

19970122 EP/A1 [+]
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19970122 EP/17P [+]
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19970514 EP/17Q [+]
FIRST EXAMINATION REPORT
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19971105 EP/AK-B1 [+]
DESIGNATED CONTRACTING STATES MENTIONED IN A PATENT
SPECIFICATION:
AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE

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STUDIO TORTA S.R.L.

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IE: EUROPEAN PATENTS GRANTED DESIGNATING IRELAND
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20020101 EP/REG; GB/IF02 [+]
GB: EUROPEAN PATENT IN FORCE AS OF 2002-01-01
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UP - 2002-17

6 / 12 INPADOC - ©INPADOC

PN - DE 69500997 T2 19980430 [DE69500997]
TI - VERFAHREN ZUM KONFIGURATIONSTEUERN VON LASERINDUZIERTEM
ZERSTOEREN UND ABTRAGEN
IN - MOUROU GERARD [US]; DU DETAO [US]; DUTTA SUBRATA [US]; ELNER
VICTOR [US]; KURTZ RON [US]; LICHTER PAUL [US]; LIU XINBING [US];
PRONKO PETER [US]; SQUIER JEFFREY [US]
PA - UNIV MICHIGAN [US]
AP - DE 69500997/95-A 19950329 [1995DE-6000997]
PR - US 224961/94-A 19940408 [1994US-0224961]
WO 9503863/95(US)-W 19950329 [1995WO-US03863]
IC - B23K-026/00; A61B-017/22

1 / 2 LEGALI - ©LEGSTAT

PN - DE 69500997 [DE69500997]

DT - DE-P

ACTE - 19971211 DE/REF-P
CORRESPONDS TO
(EP 754103 19971211 [EP-754103])

19980430 DE/8373
TRANSLATION OF PATENT DOCUMENT OF EUROPEAN PATENT WAS
RECEIVED AND HAS BEEN PUBLISHED

19981203 DE/8364 [+]
NO OPPOSITION DURING TERM OF OPPOSITION

UP - 1998-51

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PN - EP 754103 [EP-754103]

AP - EP 95916130/95 19950329 [1995EP-0916130]

DT - EP-P

ACTE - 19950329 EP/AE-A
EP-APPLICATION
EP 95916130/95 19950329 [1995EP-0916130]

19970122 EP/AK-A1 [+]
DESIGNATED CONTRACTING STATES IN AN APPLICATION WITH SEARCH
REPORT:
AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE

19970122 EP/A1 [+]
PUBLICATION OF APPLICATION WITH SEARCH REPORT

19970122 EP/17P [+]
REQUEST FOR EXAMINATION FILED
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19970514 EP/17Q [+]
FIRST EXAMINATION REPORT
970326

19971105 EP/AK-B1 [+]
DESIGNATED CONTRACTING STATES MENTIONED IN A PATENT
SPECIFICATION:
AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE

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PATENT SPECIFICATION

19971105 EP/REF-R [+]
IN AUSTRIA REGISTERED AS:
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IT: TRANSLATION FOR A EP PATENT FILED
STUDIO TORTA S.R.L.

19971211 EP/REF-P
CORRESPONDS TO:
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UP - 2002-17

7 / 12 INPADOC - ©INPADOC

PN - EP 754103 A1 19970122 [EP-754103]
TI - METHOD FOR CONTROLLING CONFIGURATION OF LASER INDUCED
BREAKDOWN AND ABLATION
LA - ENG
IN - MOUROU GERARD A [US]; DU DETAO [US]; DUTTA SUBRATA K [US]; ELNER
VICTOR [US]; KURTZ RON [US]; LICHTER PAUL [US]; LIU XINBING [US];
PRONKO PETER P [US]; SQUIER JEFFREY A [US]
PA - UNIV MICHIGAN [US]
AP - EP 95916130/95-A 19950329 [1995EP-0916130]
PR - WO 9503863/95(US)-W 19950329 [1995WO-US03863]
US 224961/94-A 19940408 [1994US-0224961]
IC - B23K-026/00; A61B-017/22
DS - AT* BE* CH* DE* DK* ES* FR* GB* GR* IE* IT* LI* LU* MC* NL* PT* SE*

1 / 3 LEGALI - ©LEGSTAT

PN - DE 69500997 [DE69500997]
DT - DE-P
ACTE - 19971211 DE/REF-P
CORRESPONDS TO
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NO OPPOSITION DURING TERM OF OPPOSITION

UP - 1998-51

2 / 3 LEGALI - ©LEGSTAT**PN** - AT 159880 [ATE159880]**DT** - AT-R**ACTE** - 19971115 AT/REF-P
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8 / 12 INPADOC - ©INPADOC

PN - EP 754103 B1 19971105 [EP-754103]
TI - METHOD FOR CONTROLLING CONFIGURATION OF LASER INDUCED
BREAKDOWN AND ABLATION
LA - ENG
IN - MOUROU GERARD A [US]; DU DETAO [US]; DUTTA SUBRATA K [US]; ELNER
VICTOR [US]; KURTZ RON [US]; LICHTER PAUL [US]; LIU XINBING [US];
PRONKO PETER P [US]; SQUIER JEFFREY A [US]
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PR - WO 9503863/95(US)-W 19950329 [1995WO-US03863]
US 224961/94-A 19940408 [1994US-0224961]
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DS - AT* BE* CH* DE* DK* ES* FR* GB* GR* IE* IT* LI* LU* MC* NL* PT* SE*

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PN - DE 69500997 [DE69500997]
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UP - 1998-51

2 / 3 LEGALI - ©LEGSTAT

PN - AT 159880 [ATE159880]

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PN - EP 754103 [EP-754103]

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EP-APPLICATION
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FIRST EXAMINATION REPORT
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SPECIFICATION:
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NL: LAPSED OR ANNUED DUE TO FAILURE TO FULFILL THE
REQUIREMENTS OF ART. 29P AND 29M OF THE PATENTS ACT; NO LEGAL
EFFECT FROM THE DATE OF

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9 / 12 INPADOC - ©INPADOC

PN - JP 9511688 T2 19971125 [JP09511688]
AP - JP 526364/95-A 19950329 [1995JP-0526364]
PR - WO 9503863/95(US)-W 19950329 [1995WO-US03863]
US 224961/94-A 19940408 [1994US-0224961]
IC - B23K-026/00; A61B-017/36

10 / 12 INPADOC - ©INPADOC

PN - US 37585 E1 20020319 [US--37585]
TI - METHOD FOR CONTROLLING CONFIGURATION OF LASER INDUCED
BREAKDOWN AND ABLATION
IN - MOUROU G EACUTE RARD [US]; DU DETAO [US]; DUTTA SUBRATA K [US];
ELNER VICTOR [US]; KURTZ RON [US]; LICHTER PAUL R [US]; LIU XINBING
[US]; PRONKO PETER P [US]; SQUIER JEFFREY A [US]
PA - UNIV MICHIGAN [US]
AP - US 366685/99-A 19990804 [1999US-0366685]
PR - US 366685/99-A 19990804 [1999US-0366685]
US 224961/94-A5 19940408 [1994US-0224961]
IC - B23K-026/02; B23K-026/40

11 / 12 INPADOC - ©INPADOC

PN - US 5656186 A 19970812 [US5656186]
TI - METHOD FOR CONTROLLING CONFIGURATION OF LASER INDUCED
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IN - MOUROU GERARD A [US]; DU DETAO [US]; DUTTA SUBRATA K [US]; ELNER
VICTOR [US]; KURTZ RON [US]; LICHTER PAUL R [US]; LIU XINBING [US];
PRONKO PETER P [US]; SQUIER JEFFREY A [US]
PA - UNIV MICHIGAN [US]
AP - US 224961/94-A 19940408 [1994US-0224961]
PR - US 224961/94-A 19940408 [1994US-0224961]
IC - B23K-026/02

1 / 1 LEGALI - ©LEGSTAT

PN - US 5656186 [US5656186]
AP - US 224961/94 19940408 [1994US-0224961]
DT - US-P
ACTE - 19940408 US/AE-A
APPLICATION DATA (PATENT)
US 224961/94 19940408 [1994US-0224961]

19940902 US/AS02
ASSIGNMENT OF ASSIGNOR'S INTEREST
REGENTS OF THE UNIVERSITY OF MICHIGAN, THE WOLVERINE TOWER,
ROOM 2071 3003 S. ST * MOUROU, GERARD A. : 19940407; DU, DETAO :
19940407; DUTTA, SUBRATA K. : 19940407; ELNER, VICTOR : 19940407; KURTZ,
RON : 19940407;

19970812 US/A
PATENT

19990928 US/RF
REISSUE APPLICATION FILED
19990804

20010731 US/RF
REISSUE APPLICATION FILED
20000201

20011016 US/RF
REISSUE APPLICATION FILED
20010201

UP - 2001-44

PN - WO 9527587 A1 19951019 [WO9527587]
TI - METHOD FOR CONTROLLING CONFIGURATION OF LASER INDUCED
BREAKDOWN AND ABLATION
LA - ENG
IN - MOUROU GERARD A [US]; DU DETAO [US]; DUTTA SUBRATA K [US]; ELNER
VICTOR [US]; KURTZ RON [US]; LICHTER PAUL [US]; LIU XINBING [US];
PRONKO PETER P [US]; SQUIER JEFFREY A [US]
PA - UNIV MICHIGAN [US]; MOUROU GERARD A [US]; DETAO DU [US]; DUTTA
SUBRATA K [US]; ELNER VICTOR [US]; KURTZ RON [US]; LICHTER PAUL
[US]; LIU XINBING [US]; PRONKO PETER P [US]; SQUIER JEFFREY A [US]
AP - WO US 9503863/95(US)-A 19950329 [1995WO-US03863]
PR - US 224961/94-A1 19940408 [1994US-0224961]
IC - B23K-026/00; A61B-017/22
DS - AM* AT* AU* BB* BG* BR* BY* CA* CH* CN* CZ* DE* DK* EE* ES* FI* GB*
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1/2 LEGALI - ©LEGSTAT

PN - CA 2186451 [CA2186451]
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CORRESPONDS TO PCT APPLICATION
<WO 9527587> [WO9527587]
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